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## **DHEC Health Advisory**

Distributed via Health Alert Network

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### **DHEC Advisory: Use of Antivirals for the Chemoprophylaxis and Treatment of Influenza**

**Supplement to the CDC Health Advisory: "Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines"** available at:

[www.scdhec.gov/hs/han/notice.htm](http://www.scdhec.gov/hs/han/notice.htm) or  
[www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm](http://www.cdc.gov/flu/professionals/treatment/0405antiviralguide.htm)

#### **Background Information**

Influenza is a contagious disease that is caused by the influenza virus. There are two different types of influenza virus that cause epidemics of influenza in humans. These are influenza A and influenza B. Currently, four different drugs that inhibit either influenza A alone or both influenza A and B are licensed by the FDA for chemoprophylaxis or treatment of influenza. The four drugs are amantadine, rimantadine, zanamivir, and oseltamivir.

#### **Influenza antiviral agents**

The four drugs differ in pharmacokinetics, side effects, routes of administration, approved age groups, dosages, and costs.

Information regarding the use of these drugs for the chemoprophylaxis and treatment of influenza can be found in Table 1 of this advisory (**Antiviral drugs for chemoprophylaxis and treatment of influenza with interim CDC recommended indications for use**).

- Note that this table contains information on the **FDA-approved indications** as well as the **new interim CDC recommended indications for these drugs as of Oct 18, 2004**:  
[Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines](#).

The **package inserts** for each drug should be consulted for additional information including dose, warnings, precautions, drug interactions, adverse reactions and contraindications.

- Detailed information on these drugs can be found at:
  - <http://www.fda.gov/cder/drug/antivirals/influenza> and appropriate links
  - CDC guidance document (MMWR 2004;53(RR-8):1-40) at [Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices](#).

#### **Amantadine and Rimantadine**

- Similar in action against influenza and in their pharmacologic and clinical profile.
- Inhibit influenza A viruses but not influenza B virus.
- **CDC recommends that amantadine and rimantadine be used for influenza A chemoprophylaxis and not treatment.**

- See [Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines](#).
- It is important for the clinician to be informed of the type(s) of influenza circulating in the community and within the institution since these drugs are active only against influenza A.
- Recommended duration of chemoprophylaxis can be found at:
  - [Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines](#).

### **Zanamivir and Oseltamivir**

- Similar in mechanism of action against influenza
  - Different viral target than amantadine and rimantadine.
- Inhibits both influenza A and influenza B virus.
- **CDC recommends that zanamivir and oseltamivir be used for treatment of influenza A and B infection.**
  - See [Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines](#).
  - Treatment of influenza must be instituted within 2 days of onset of illness.
  - Treatment reduces the duration of symptoms of influenza by approximately 1-2 days.
  - Recommended duration of treatment with either zanamivir or oseltamivir is 5 days.

### **Important Information on Determining Types and Strains of Influenza in a Community/Institution**

National and local information on the type(s) and strains of influenza circulating in the community can be found at the following websites:

- Nationwide influenza information can be obtained at the CDC website, <http://www.cdc.gov/flu/weekly/fluactivity.htm>.
- Community influenza information can be obtained at the South Carolina DHEC website, <http://www.scdhec.com/hs/diseasecont/acuteepi/flu.htm>.

Information regarding influenza type(s) and strains circulating within an institution must be obtained by:

- Appropriate laboratory testing of specimens obtained from persons thought to be infected with influenza.
  - Information concerning diagnostic testing for influenza can be obtained at the CDC website, <http://www.cdc.gov/flu/professionals/labdiagnosis.htm>.
- For additional guidance on laboratory testing of specimens, please contact Dr. Lena Bretous at (803) 898-0862 or [BRETOULM@dhec.sc.gov](mailto:BRETOULM@dhec.sc.gov) or Dr. Jennifer Meredith at (803) 896-0870 or [MEREIJF@dhec.sc.gov](mailto:MEREIJF@dhec.sc.gov).

### **Sources of Information Regarding Influenza and Its Surveillance**

Information regarding influenza surveillance, prevention, detection, and control is available at:

- The Centers for Disease Control and Prevention
  - <http://www.cdc.gov/flu/weekly/fluactivity.htm>.
  - CDC Voice Information System (influenza update) at 888-232-3228.
  - CDC Fax Information Service at 888-232-3299.
  - Periodic updates regarding influenza published in *MMWR Weekly* (<http://www.cdc.gov/mmwr>).
- SC Department of Health and Environmental Control
  - [www.scdhec.gov](http://www.scdhec.gov) (homepage)
  - <http://www.scdhec.com/hs/diseasecont/acuteepi/flu.htm>.

**Table 1. Drugs for Chemoprophylaxis and Treatment of Influenza with Interim CDC Recommended Indications for Use**

Antiviral drug/ Formulation	<sup>(1)</sup> Interim CDC Recommended Indications for Use	<sup>(2)</sup> FDA Approved Use for Chemoprophylaxis (ChemoPx)		<sup>(2)</sup> FDA Approved Use for Treatment		Contra-indications	Most common side-effects	Precautions
		<i>Influenza A</i>	<i>Influenza B</i>	<i>Influenza A</i>	<i>Influenza B</i>			
<b>Amantadine</b>  Capsules, tablets, syrup	<b>ChemoPx</b>	Adults and children ≥1 yo	No	Adults and children ≥1 yo	No	Untreated angle closure glaucoma; pregnancy	Nausea, anorexia, nervousness, anxiety, insomnia, difficulty concentrating, lightheadedness	Dose reduction for renal insufficiency; Caution with seizure or psychiatric disorders; Rapid emergence of A/R-resistant virus during treatment.
<b>Rimantadine</b>  Tablet, syrup	<b>ChemoPx</b>	Adults and children ≥1 yo	No	Adults and children ≥13 yo	No	Pregnancy	Nausea, anorexia, nervousness, anxiety, insomnia, difficulty concentrating, lightheadedness	Dose reduction for renal insufficiency; Dose reduction for liver disease; Caution with seizure or psychiatric disorders; Rapid emergence of A/R-resistant virus during treatment.
<b>Zanamivir (Relenza®)</b>  Inhaled powder	<b>Treatment</b>	No	No	Adults and children ≥7 yo	Adults and children ≥7 yo	Underlying airway disease (e.g. asthma, COPD); pregnancy	Nausea, diarrhea, sinusitis, nasal signs and symptoms, bronchitis, cough, headache, dizziness, ENT infections	
<b>Oseltamivir (Tamiflu®)</b> Tablet	<b>Treatment</b>	Adults and children ≥13 yo	Adults and children ≥13 yo	Adults and children ≥1 yo	Adults and children ≥1 yo	Pregnancy	Nausea and vomiting	Dose reduction for renal insufficiency

(1) see CDC website: [Influenza Antiviral Medications: 2004-05 Interim Chemoprophylaxis and Treatment Guidelines](http://www.cdc.gov/flu/antiviral/2004-05/interim-chemoprophylaxis-and-treatment-guidelines).

(2) see appropriate package inserts (FDA approved labels for drug use) within this FDA website: <http://www.fda.gov/cder/drug/antivirals/influenza>.